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Please find below and/or attached an Office communication concerning this application or proceeding.



***Priority***

1. Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged. Applicant has complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. [1] as applicant has inserted a reference to the prior application as the first sentence(s) of the specification of this application.
2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
4. Claims 1-4,12,16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yavid et al. (US 2002/0125324 A1) in view of Coulter et al. (6,304,638).

Regarding Claim 1, Yavid et al. an input device (page 1, paragraph 4, page 2, paragraph 23, page 4, paragraph 87, page 8, paragraph 114, Line 2-12, page 15, paragraph 207-209, figure 7 item 90,164,166) for generating an input operation signal representing operations of a specific input device (page8, paragraph 114, Line 4-9), comprising: a tapping sound detector configured

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to detect a tapping sound (page 15, paragraph 207) made by a user to generate a tapping sound detection signal (page 15, paragraph 209); a converter configured to convert the tapping sound detection signal into an input operation signal simulating an operation of a specific input device (page 8, paragraph 114, Lines 5-7); and an operation signal output device configured to output the input operation signal (page8, paragraph 114, Lines 8-12).

However, Yavid et al. fails to recite or disclose microphone being detachably attach to display screen.

However, Coulter et al. teaches microphone being detachably attach to display screen (Col. 3, Lines 2-4, Lines 13-15).

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of Coulter et al. in teaching of Yavid et al. for having a user friendly and convenient navigation of display information on a display system.

Regarding Claim 2, Yavid et al. teaches the specific input device is a mouse (page8, paragraph 114, Line 2 figure 7 item 90,164,), and the operations represented by the input operation signal include on/off of a mouse button (page 15, paragraph 207).

Regarding Claim 3, Yavid et al. teaches the operation signal output device includes a wireless transmitter (page8, paragraph 114, Lines 8-12).

Regarding Claim 4, Yavid et al. teaches the input operation signal includes a plurality of signal patterns representing a plurality of operations of the mouse button (page 8, paragraph 114,

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Lines 4-6), respectively, and the converter generates the input operation signal having one of the plurality of signal patterns according to at least one of a frequency (page 8, paragraph 114, lines 6-9) and an interval of the tapping sounds (page 15, paragraph 207).

Regarding Claim 12, Yavid et al. teaches an image display system (page 2, paragraph 23) an image display device configured to display an image represented by image information (page 1, paragraph 4 Lines 1-3, page 4, paragraph 87, Lines 1-4) supplied from the image supply device (page 8, paragraph 114, Lines 1-4); and an input device configured to supply to the image supply device an input device (page 8, paragraph 114, Line 2 figure 7 item 90,164,166) for generating an input operation signal representing operations of a specific input device (page 8, paragraph 114, Line 4-9), comprising: a tapping sound detector configured to detect a tapping sound (page 15, paragraph 207) made by a user to generate a tapping sound detection signal (page 15, paragraph 209); a converter configured to convert the tapping sound detection signal into an input operation signal simulating an operation of a specific input device (page 8, paragraph 114, Lines 5-7); and an operation signal output device configured to output the input operation signal ((page 8, paragraph 114, Lines 8-12).

However, Yavid et al. fails to recite or disclose microphone being detachably attach to display screen.

However, Coulter et al. teaches microphone being detachably attach to display screen (Col. 3, Lines 2-4, Lines 13-15).

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of Coulter et al. in teaching of Yavid et al. for having a user friendly and convenient navigation of display information on a display system.

Regarding Claim 16, Yavid et al. teaches an image display system (page 2, paragraph 23) an image display device configured to display an image represented by image information (page 1, paragraph 4 Lines 1-3, page 4, paragraph 87, Lines 1-4) supplied from the image supply device (page 8, paragraph 114, Lines 1-4); and a pointing device configured to supply to the image display device a pointing signal indicating a position on a display screen of the image display device (page 15, paragraphs 207-209), the pointing device comprising: a position determination device configured to determine an indicated position on the display screen pointed with a pointing means by a user (page 15, paragraph 208,209), to thereby generate a position signal representing the indicated position; an acoustic input device configured to generate an input operation signal responsive to a sound made by the user (page 15, paragraphs 207-209), and an input device configured to supply to the image supply device an input device (page8, paragraph 114, Line 2 figure 7 item 90,164,166) for generating an input operation signal representing operations of a specific input device (page8, paragraph 114, Line 4-9), and a pointing signal output device configured to supply the pointing signal including the position signal (page 15, paragraph 209); and including: a tapping sound detector configured to detect a tapping sound made by the user on the display screen to generate a tapping sound detection signal (page 15, paragraph 207); a tapping sound detector configured to detect a tapping sound (page 15, paragraph 207) made by a user to generate a tapping sound detection signal (page 15,

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paragraph 209); a converter configured to convert the tapping sound detection signal into an input operation signal simulating an operation of a specific input device (page 8, paragraph 114, Lines 5-7); and an operation signal output device configured to output the input operation signal ((page8, paragraph 114, Lines 8-12).

However, Yavid et al. fails to recite or disclose microphone being detachably attach to display screen.

However, Coulter et al. teaches microphone being detachably attach to display screen (Col. 3, Lines 2-4, Lines 13-15).

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of Coulter et al. in teaching of Yavid et al. for having a user friendly and convenient navigation of display information on a display system.

5. Claims 5-7,10,11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yavid et al. (US 2002/0125324 A1) in view of Coulter et al. (6,304,638). as applied to claims 1-4,12,16 above, and further in view of Westerman et al. (6,323,846 B1).

Regarding Claim 5, Yavid et al. teaches an input device (page8, paragraph 114, Line 2 figure 7 item 90,164,166).

However, Yavid et al. modified by Coulter et al. fails to teach the plurality of operations of the mouse button could be mapped into finger tapping using computer software, include a click, a double click, and dragging, and the converter generates the input operation signal having

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one of the signal patterns representing the click, double click, and dragging in response to one, two and three tapping sounds, respectively.

Westerman et al. teaches the plurality of operations of the mouse button could be mapped into finger tapping (Col. 10, Lines 6-15), using computer software (Col. 14, Lines 15-24), include a click, a double click, and dragging, and the converter generates the input operation signal having one of the signal patterns representing the click, double click, and dragging in response to one, two and three tapping sounds, respectively, (Col. 10, Lines 6-15, Col. 76, Lines 45-65).

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of Westerman et al. in teaching of Yavid et al. modified by Coulter et al. for having a user friendly and convenient manual input system with multiple degree of freedom to manipulate in a display system. the plurality of operations of the mouse button include a click, a double click, and dragging, and the converter generates the input operation signal having one of the signal patterns representing the click, double click, and dragging in response to one, two and three tapping sounds, respectively.

Regarding Claim 6, Westerman et al. teaches the plurality of operations of the mouse button could be mapped into finger tapping (Col. 10, Lines 6-15), using computer software (Col. 14, Lines 15-24)), when receiving a new tapping sound detection signal after generation of the input operation signal representing the dragging, the converter converts the new tapping sound detection signal into another input operation signal representing end of the dragging (Col. 75, Lines 53-67, Col. 10, Lines 6-15, Col. 76, Lines 45-65).

Regarding Claim 7, Westerman et al. teaches the plurality of operations of the mouse button (Col. 76, Lines 43-65) could be mapped into finger tapping (Col. 75 Lines 52-55) using computer software (Col. 14, Lines 15-24)\, (it is well known in the art to manipulate the timing requirement of each tap or multiple tap on the industry standard basis established for human input with respect to keyboard and mouse switches, and the ON/off timing for input operation depends on several factor but they are all manipulated) and the converter executes: turning ON the input operation signal when a first tapping sound is detected by the tapping sound detection device; when a second tapping sound is not detected within a first period of time after the detection of the first tapping sound, turning OFF the input operation signal; when the second tapping sound is detected within the first period of time, maintaining the input operation signal ON; when a third tapping sound is not detected within a second period of time after the detection of the second tapping sound, turning OFF the input operation signal, and then turning ON the input operation signal for a predetermined period of time, and when the third tapping sound is detected within the second period of time, maintaining the input operation signal ON, and then turning OFF the input operation signal when a fourth tapping sound is detected (Col. 53, Line 46 to Col. 54, Line 29).

Regarding Claim 10, Westerman et al. teaches the plurality of operations of the mouse button could be mapped into finger tapping (Col. 10, Lines 6-15), using computer software (Col. 14, Lines 15-24)\, include a click, a double click, and dragging, and the converter generates the input operation signal having one of the signal patterns representing the click, double click, and

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dragging in response to one, two and three tapping sounds, respectively, (Col. 10, Lines 6-15, Col. 76, Lines 45-65).

Regarding Claim 11, Westerman et al. teaches when the converter generates the input operation signal having a signal pattern representing the dragging, the converter further generates the input operation signal having another signal pattern representing end of the dragging when a new tapping sound is detected (Col. 54, Lines 7-21, Col. 53, Lines 12-28).

6. Claims 8,9,14,15,18,19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yavid et al. (US 2002/0125324 A1) in view of Coulter et al. (6,304,638) as applied to claims 1-4,12,16 above, and further in view of Feinstein (6,466,198 B1).

Regarding Claim 8, Yavid et al. teaches the input operation signal includes a plurality of signal patterns representing a plurality of operations of the mouse button (page 8, paragraph 114, Lines 4-6), respectively, and the converter generates the input operation signal having one of the plurality of signal patterns according to at least one of a frequency (page 8, paragraph 114, lines 6-9) and an interval of the tapping sounds (page 15, paragraph 207).

However, Yavid et al. modified by Coulter et al. fails to teach tapping sounds detected within a predetermined period of time after a first tapping sound is detected.

However Feinstein teaches tapping sounds detected within a predetermined period of time after a first tapping sound is detected (Col. 9, Lines 48-66).

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching Feinstein of in Yavid et al. modified by Coulter et al. teaching for having a user friendly and convenient navigation of display information on a display system.

Regarding Claim 9, Yavid et al. teaches the specific input device is a mouse (page 8, paragraph 114, Line 2 figure 7 item 90,164,), and the operations represented by the input operation signal include on/off of a mouse button (page 15, paragraph 207).

Regarding Claims 14,18, Feinstein teaches the image supply device keeps a position of a mark image displayed on the image display device for a predetermined period of time after a first tapping sound is detected by the tapping sound detector (Col. 9, Lines 51 to Col. 10, Line 20).

Yavid et al. teaches the image supply device keeps a position of a mark image displayed on the image display device for a predetermined period of time (page 8, paragraph 120 Lines 8-13 in order for computer to recognize indicia pointed at and start processing and page 15, paragraph 209, Lines 9-17) after a first tapping sound is detected by the tapping sound detector (page 15, paragraph 207).

Regarding Claims 15,19, Yavid et al. teaches the image supply device changes appearance of an index image displayed on the image display device in response to the input operation signal (page 15, paragraphs 207-209).

*Allowable Subject Matter*

7. Claims 13,17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is an examiner's statement of reasons for allowance:

An image display system comprising: an image supply device; an image display device configured to display an image represented by image information supplied from the image supply device; and a pointing device configured to supply to the image display device a pointing signal indicating a position on a display screen of the image display device, the pointing device comprising: a position determination device configured to determine an indicated position on the display screen pointed with a pointing means by a user, to thereby generate a position signal representing the indicated position; an acoustic input device configured to generate an input operation signal responsive to a sound made by the user, the input operation signal representing operations of a specific input device; and a pointing signal output device configured to supply the pointing signal including the position signal and the input operation signal to the image supply device, the acoustic input device including: a tapping sound detector configured to detect a tapping sound made by the user on the display screen to generate a tapping sound detection signal; a converter configured to convert the tapping sound detection signal into the input operation signal; and an operation signal output device configured to supply the input operation signal to the pointing signal output device, wherein the input operation signal is transmitted using a transmitter and a receiver; **wherein the image supply device prohibits output of a new**

**pointing signal from the acoustic input device for a predetermined period of time after receiving a previous pointing signal from the acoustic input device.**

The cited references on 892's fails to recite or disclose above underlined bold claim.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kanevsky et al. (6,421,453 B1) Apparatus and methods for user recognition employing behavioral passwords.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prabodh M. Dharia whose telephone number is 571-272-7668. The examiner can normally be reached on M-F 8AM to 5PM.

11. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:


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